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## SECTOR 9 — CHART INFORMATION

## SECTOR 9

### CHINA—MIN JIANG TO DAPENG JIAO

**Plan.**—This sector describes the SE coast of China between Shafeng Jiao, the S entrance point of the river Min Jiang, and Dapeng Jiao (Mir Point), a point about 365 miles SW. The description is N to S.

#### General Remarks

**9.1 Winds—Weather.**—Winds are seasonal and blow largely NE and SW in consequence of the influence which create the characteristic monsoons of the SE coast of China. From September through May, winds from the NE predominate and commonly exceed a velocity of 22 knots. During October, November and December, wind velocity is likely to exceed 34 knots, with December having the greatest likelihood of strong winds. April has the greatest percentage of calms. In June, winds are transitional and blow with equal frequency from the SW and NE. In the months of July and August, winds blow from the SW predominate and seldom exceed a velocity of 21 knots. August has the greater percentage of calms. The transition from the summer, Southwest Monsoon season to the winter, Northeast Monsoon season is abrupt and may occur within a week's time.

Typhoons created well to the SE by forces other than those giving rise to monsoon winds, may occur at any time of the year. From October through April, they seldom if ever occur. In May and June, they increase in frequency until in July and August they occur at a rate better than twice a year. In September, they commence their decline in frequency and tend to concentrate on the S portions of the mainland coast.

**Tides—Currents.**—Ocean currents are seasonal in set and velocity. From September to March, the set is SW and parallels the coast. In April, the set becomes confused or counter-clockwise. From May through August, the set is NE and parallels the coast. The SW current reaches a maximum velocity of 1.5 knots in January and February. In July the NE current reaches a maximum of 2 knots.

Tidal current characteristics occur in consequence of the interaction between tidal wave propagation emanating from a position near Shibeishan Jiao with tidal wave propagation progressing around either extremity of Taiwan and culminating in about 24°30'N. Thus, between Shibeishan Jiao and Hong Kong the flood sets W and ebbs E. While N of 24°30'N, the flood sets S and ebbs N. An onshore set accompanies a N current. Tidal rise is similarly largely a function of interaction between opposing tidal wave progression. Thus, tidal rise increases progressively from less than 1m at Shibeishan Jiao to about 6.1m at Shafeng Jiao.

The coastline of China between Shafeng Jiao and Dapeng Jiao is extremely irregular and much indented by numerous large bays, smaller coves, lesser inlets and extensive estuaries. It is immediately backed by a level to rolling coastal plain which, extending inland in places as far as 20 miles, rises gradually to a NE trending range of mountains that reaches the sea in the N and S portions of the coastline as bold, rocky

headlands. Elsewhere, steep hill and mountain spurs enter the coastal plain and, continuing seaward in several isolated ridges, generally terminate only a short distance from the shore. Offshore, the approaches are predominantly clear and several large off-lying islands are, in general, found to lie within a line joining the principal salient points extending forth from the shore. The large island, Haitan Dao, in the N part of the coastline, is a notable exception. Several isolated off-lying islets lie well scattered throughout the area. Closer inshore, the sea floor is level and has the gradual slope, without the extensive coastal margins of drying mud flats, characteristic of the SE coast of China. Above and below-water dangers are widely scattered. The principal ports are Xiamen and Shantou.

**Caution.**—During each monsoon season, an inshore set of considerable strength has been experienced along the coast, especially in the vicinity of the entrance to Xiamen Gang (Hsia-men Chiang) and in the area around Nanpeng Liedao. Vessels have stranded at various times on the off-lying islands between Chin-men Tao and Fu-chi Chiao. Many lighthouses on these islands are of considerable elevation and often the upper parts are obscured by fog while the lower part is clear. When a light is not seen, although within range of visibility, soundings should be taken and the vessel hauled out to deeper water until the position is ascertained.

#### Off-lying Islets

**9.2** The several, widely scattered, off-lying islets lie, in general, within the 40m curve and within a distance of about 20 miles from the coast. They rise abruptly from the sea floor and constitute a danger to vessels standing off the coast for destinations N or S. These dangers are described below.

**Niushan Dao** (Niu-shan Tao) (25°26'N., 119°56'E.) is a barren steep-sided islet which, surrounded by above and below-water dangers on all sides except the E, rises abruptly to a 66m summit surmounted by a lighthouse. The islet, which should be cleared at a distance of not less than mile, is reported radar conspicuous at a distance of 22 miles.

**Wuqiu Yu** (Wu-ch'iu Hsu) (25°00'N., 119°27'E.) is a small, steep-to, inhabited island rising to a rounded summit surmounted by a lighthouse. Xia Yu (Hsai Hsu), close SE, is a smaller, rather low, inhabited island having sandy hummocks. The two islands are reported radar conspicuous at a distance of 19 miles. Vessels, when proceeding NE in clear weather during the Northeast Monsoon season, usually pass about 2 miles NW of Wuqiu Yu. Heavy fogs occur in April and May.

In a position about 8 miles S of Wuqiu Yu, the monsoon current (July to September) sets to the NE at a rate varying with tidal effect. The monsoon current predominates except when spring tide sets SW and counterbalances its affect. From September to July the tidal current becomes dominant; however, it is largely affected by the wind.

**Xiongdi Yu** (Hsiung-ti Yu) (23°33'N., 117°40'E.) consists of two small, rather low-lying islets separated by a channel

reported clear and 1 mile wide. Dagan Shan, the SE islet, has a bluff on its S side and a reef extending about 0.3 mile W from the side. Xiaogan Shan, the NW islet, has a prominent square summit. The two islets are reported radar conspicuous at a distance of about 16 miles. A light is exhibited from Dagan Shan.

**Nanpeng Liedao** (23°16'N., 117°17'E.) is an islet group consisting of two larger islets prolonged NE and SW by several smaller islets and a number of underwater rocks. Nanpeng Dao, one of the larger islets lying near the center of the group and reported radar conspicuous at a distance of about 25 miles, is partially covered by vegetation and is marked by a light on its summit. Vessels reportedly anchor, in depths of less than 18m, in a position about 0.5 mile W of the islet.

Tidal currents in the vicinity of the islets set NE on the flood and SW on the ebb; maximum rates are less than 1 knot.

**Zhenyan Tou** (Pedro Blanco) (Chen Yen-t'ou) (22°19'N., 115°06'E.) consists of two rocks with a passage between them 2m in width and 4.5m in depth. The passage can be viewed from N or S of the rocks. The E and larger rock appears conical on some bearings. The W rock has a shelf extending NW with a rock drying 1.5m at its seaward extremity; other than this shelf, both rocks are steep-to.

## Shafeng Jiao to P'ing-hai Chiao

**9.3 Shafeng Jiao** (26°01'N., 119°42'E.) is a low-lying, sandy point backed by a hilly ridge extending about 2 miles SW and fronted by a drying spit that extends several miles to the E.

**Qi Shan** (Chin Feng) (26°00'N., 119°41'E.), the summit of a hilly ridge, has sandy E slopes which show brilliantly in misty weather when little else in the vicinity is visible.

The coastline between Shafeng Jiao and P'ing-hai Chiao, about 56 miles SSW, is very irregular and lies divided by a considerable peninsula into two large embayments whose shoreline is similarly irregular and indented by numerous inlets and a multitude of small bays and lesser coves which, throughout, are fronted by wide and extensive margins of drying mud flats. The land inland is generally low or rises to low-lying hills.

Offshore, the large island Haitan Dao, along with several lesser islands, numerous islets, and a vast multitude of above- and below-water dangers, lies within the 40m curve which roughly parallels the salient points of the mainland coast at a distance of about 14 miles. The larger islands are cultivated and generally low or rise to low hills.

Haitan Haixia is the channel between Haitan Dao and the mainland. Xinghua Shuidao and Nanri Shuidao are the two main channels leading through off-lying islands fronting the bay Xinghau Wan.

**Haitan Dao** (25°33'N., 119°48'E.) is a large island lying close off the mainland coast in a position with its N extremity about 22 miles S of Shafeng Jiao. The shoreline is very irregular and indented by numerous bays which, receding well inland between bluff promontories, are generally deep on the E side of the island and filled with drying mud flats on the W side.

**Niushan Dao** (25°26'N., 119°56'E.), 67m high and with several rocks extending up to 0.5 mile from it, is the most seaward

island on this part of the coast. It should be given a berth of at least 0.75 mile. A light is shown from the summit of the island.

Vessels, seeking shelter during winds of the Northeast Monsoon season, can obtain anchorage within **Guanyin Ao** (25°28'N., 119°50'E.), in a depth of 9.4m, sand, about 0.2 mile W of the E entrance point to Guanyin Ao, with the light on Niushan Dao bearing 105° and just open S of that point. The holding ground is good, but a heavy swell sets in during the Northeast Monsoon.

**9.4 Haitan Haixia** (25°27'N., 119°38'E.), the narrow channel between Haitan Dao and the mainland, is considerably encumbered in its N and S entrances by numerous, largely steep-sided islands while, within the entrances, it has several fairways that are further encumbered by many islets and extensive shoal banks of sand. The principal channel, of the several deep-water channels, leading through the islands lying in the N entrance passes NW of the steep-to **Haitan Shi** (Norton Rock) (25°46'N., 119°48'E.), the most seaward danger in the approaches. The channel trends SW between the islet group Dongluo Liedao (Ta-lao Shan) and the reef-fringed Zhu Pai (Red Rock), and then enters the inner fairway between the islands Ku Hsu and Tangyu Dao.

**Dongnan Kou** (25°23'N., 119°44'E.), the SE entrance, is entered between the S extremity of Haitan Dao, and the steep-sided island Cao Yu (Ts'ao Hsu).

**Nan K'ou** (25°20'N., 119°40'E.), the SW entrance, branches N from Xinghua Shuidao and continues NNE between the island Tang Yu (Chung-lou Shan) and the mainland to the W.

Vessels, seeking refuge from typhoon winds, enter the S part of Haitan Dao and anchor, in 7.3m, sand, in a position with Ting Tao (Station Islet), about 3 miles WNW of the S extremity of Haitan Dao, bearing 072° and with the W side of Junksail Islet (Chuang-tan Yu) bearing 328°. They also anchor, in 11m, mud and sand, in a position about mile NNW of Low Islet (Oi Yu) with the W sides of Low Islet and Junksail Islet in rang bearing 155°.

**Caution.**—Vessels are cautioned that the middle part of Haitan Dao is obstructed by shoals and a bar which is subject to displacement in consequence of strong tidal currents acting on a bottom of sand and mud. Vessels with a draft greater than 6.7m run the risk of grounding should they incur delay while seeking to take advantage of the extreme tidal rise customary to the channel.

**9.5 Xinghua Wan** (25°20'N., 119°20'E.) is an extensive, partially-examined, and largely shoal bay entered between Fort Hill Point, about 8 miles NE of Pinghai Chiao, and the SW extremity of a narrow finger of land about 9 miles NE. It is a refuge for large vessels seeking shelter from typhoon winds.

**Tide—Currents.**—Tidal rise is extreme: Lo-shan Chun-tao, 6.1m MHWS; Ren Yu, 6.3m at MHWS; and Baifu (Pai-tou Hsu), 6.4m at MHWS and 4.9m at MLWN.

Well offshore, currents vary in consequence of monsoon winds, but, in general, they set SW at about 1 knot. Inshore, tidal currents generally set W on a rising tide and E on a falling tide and attain a velocity of about 3 knots. The flood current of a rising tide bifurcates E of Haitan Dao and set S through the N entrance to Haitan Haixia and NW through the SE entrance. The two currents meet near Lao-lo Shan (Middle Islet), where

heavy rips and overfalls occur, and attain velocities of 2 to 3 knots in the wider portions of the fairway and 4 to 5 knots in the narrow portion at Ta Yu (Pass Island). The flood current setting NW through Tung-nan K'ou bifurcates NW of Ts'ao Yu and sends a SSW setting branch through Nan K'ou which, in turn, divides into a W setting and S setting branch on reaching Xinghua Shuidao. Current velocity reaches 2 to 3 knots. The ebb current of a falling tide is, in general, the reverse of the flood current. The tidal current in the seaward entrance to Xinghua Shuidao set SW on a rising tide and SE on a falling tide with a velocity of about 2.3 knots.

Tidal currents at the juncture of Xinghua Shuidao and Nanri Shuidao set W on a rising tide and E on a falling tide. They reach a velocity of 5 to 7 knots at spring and form a race.

**Directions.**—Vessels having arrived in a position about 1 mile NE of **Da Jiao** (25°21'N., 119°46'E.), steer so as to pass about 0.3 mile off the N extremity of Cao Yu and continue NW until Junksail Islet (Chuang-tan Yu) bears 353°. When the E islet of Tung-cheng bears 270°, they haul to port so as to pass about 0.4 mile W of Junksail Islet.

**9.6 Inside Passage.**—Vessels, having arrived in a position about 0.4 mile W of Junksail Islet, steer NNW so as to pass about 0.2 mile E of the tripod beacon surmounted by a black spherical topmark standing on several rocks close E of Ta Yu (Pass Island), when they haul to port and, bringing the E side of Junksail Islet in range 136°, astern, with the W side of Ting Tao (Station Islet), steer 316° so as to pass between the beacon and the several sunken Ashuelot Rocks (Yo Shih), they haul to starboard and, bringing the two pyramid beacons on Ta Yu in range 159°, astern, steer 339° so as to pass W of Flag Islet (Chi Yu) and to enter the recommended Wilson Channel (Weishen Shuidao) with the small island Ming-chiang Yu visible ahead between Pei-tou Yu (Charles Islet) and the several black rocks. Vessels favor the W side of Wilson Channel until the white stone cairn on a rock close N of Lao-lo Shan (Middle Islet) comes in range 084° with a similar cairn on the largest of the Saxby Islets (Pai-tou Chiano), when they haul to starboard and, passing W of a 3.2m pinnacle rock lying in mid-channel, steer on a heading of 359° with the rock close W of T'a Chiao (Tower Rock) in range with the SW extremity of Tangu Dao. When Talisman Peak (Te-li-men Feng) bears 270°, they haul to port and, bring a light-colored patch on the W shoulder of Ku Hsu in range with the conspicuous conical peak Niu-chiao Shan (Yu-kuo Shan), carefully steer 352° until Inner Rock bears 089°, when they ease to starboard and steer on a heading with the two white pyramid beacons on the SE slope of Ku Hsu in range 351° so as to pass fair between Mitre rock and the several dangers about 0.75 mile ESE. When Mitre Rock bears 270°, they haul to starboard and bring Mitre rock in range 217° astern, with a break in the hills SW steer fair between Ku Hsu and Tangu Dao so as to pass NW of the 4.6m patch on Simpson Spit (Hsin-shen Sha-tsui).

Pi-nang Shuidao (Blind Channel) is a narrow secondary channel used by vessels able to navigate the 4.1m crossover between the N part of the channel and the fairway N of Wilson Channel. Vessels having arrived in a position about 0.5 mile N of Ta Yu, steer to pass about 0.2 mile E of Flag Islet and then continue NNW with the E side of the islet in range 170°, astern, with the W side of Ta Yu, until the white stone cairn on

a rock close N of Lao-lo Shan come in range 084° with a similar cairn on the largest of the Saxby Islet, when they ease to starboard and favor the E side of the channel by steering with the E side of Flag Islet in range 174°, astern, with the W side if the islet close W of Ta Yu. When the drying rock Hua Chiao (Tricker Rock) come in range 034° with Pillar Rock (Chu Chiao) be covered, when Pie-tou Yu comes in range 244° with a pagoda standing on the mainland WSW, vessels steer NNW in transit of the crossover and proceed through the fairway N of Wilson Channel as described above.

**9.7 Nan K'ou.**—Vessels having entered Xinghua Shuidao and arriving in a position about 1 mile N of **Tung-Yueh Yu** (Shuang-jih Tao) (25°16'N., 119°40'E.), steer for Nopass Rock on a NNW heading until Douglas Islet bears NW, distant 1 mile, and the S extremity of Tang Yu (Chung-lou Shan) bears 112°, when they haul to starboard and steer for a conspicuous sand patch on the S side of Haitan Dao on a heading of 027°. When Junksail Islet bears 353°, they haul to port and proceed as described above.

**9.8 Xinghua Shuidao.**—Vessels, having arrived in a position S of **Sheng-t'u-li Tao** (25°15'N., 119°45'E.), steer NW so as to pass fair between the sunken dangers lying off the inlet groups Heng Shan Yu and Tung-yueh (Shuang-jih Tao), then WNW so as to pass about 0.75 mile N of Hsiang-kan Yen (Hong Kong Rock) and Tung-pri-jih Yen (NE Yit Rock), then N or S of Baifu (Pai-tou Hsu) and then fair through the deep, 0.5 mile wide channel between the islet Lu Hsu and Kao-fu Yu, the small, precipitous, northernmost islet of the islet group Ta-she Yu.

**Xinghua Shuidao** (25°18'N., 119°39'E.), the E entrance channel to Xinghua Wan, is entered between **Shitang Yan** (Sheng-t'u-li Tao) (25°15'N., 119°45'E.), a sunken pinnacle rock, with a depth of 1.6m, and Shuiluo (Scattered Yits), a group of above and below-water dangers about 5 miles WSW.

The channel is deep throughout and trends generally W between the dangers fronting the mainland coast and the many islets and dangers lying NE and N of Nanri Dao (Nanjih Tao), the largest island in the approaches to Xinghua Wan.

**9.9 Nari Shuidao.**—Vessels, having arrived in a position about 1 mile E of **Lu-tz'u Yen** (25°08'N., 119°23'E.), steer N so as to pass about 1 mile E of Ta Hsu and Middle Islet and then steer either NE of Knob Islet (La-tu-ke Tao) and enter Hsing-hua Wan or, steering for the W side of Yeh-ma Hsu, enter Xinghua Shuidao between Lu Yu and Kao-fu Yu when this latter islet bears 090°.

**Nanri Shuido** (25°12'N., 119°25'E.), the S entrance channel to the bay, is entered between the 6.1m high pinnacle rock **Nanding** (Loutz Rock) (25°08'N., 119°23'E.) and the shoal coastal bank extending SW from Nanri Dao. It is deep throughout and trends N between Nanri Dao and the dangers fronting the mainland.

**Anchorage.**—During the Northeast Monsoon, there is good anchorage about 1 mile E of **Ren Yu** (25°20'N., 119°36'E.), with **Punchard Islet** (25°20'N., 119°37'E.) bearing 351° at a distance of 0.6 mile. However, the bottom is reported to be very uneven and vessels should use caution when anchoring.

Anchorage can also be obtained 0.2 mile W of **Lu Hsu** (25°19.6'N., 119°28.5'E.) in a depth of 22m, mud, out of the strength of the tidal current.

Vessels seeking refuge from typhoon winds anchor, in 9.1m, good holding ground, in a position with Pitou Point bearing 066° distant about 1 mile. Less water than charted has been reported.

**Caution.**—During the flood tide, a portion of the current enters the N side of Xinghua Shuidao from the S entrance to Haitan Haixia and divides, one part flowing S along the channel and the other part flowing W. At the W end of Xinghua Shuidao, the W current may attain rates of 5 to 7 knots at springs and frequently causes overfalls and eddies.

A dangerous wreck lies approximately 3 miles S of Nanri Dao, in 16.2m of water.

### P'ing-hai Chiao to Wei-t'ou Jiao

**9.10 P'ing-hai Chiao** (25°10'N., 119°16'E.) is the S extremity of a large peninsula projecting SE from the mainland. The coastline between P'ing-hai Chiao and Weitou Jiao, about 55 miles SW, is extremely irregular and indented by a number of large bays which, extending well inland, are rather shoal and have a shoreline fronted by extensive areas of drying mud flats. Inland, the terrain is low-lying and largely cultivated.

Offshore, the 20m curve parallels the salient coastal points at a distance of 2 to 3 miles and contains all the natural obstructions constituting a danger to navigation.

The principal larger bays are Meizhou Wan and Quanzhou Wan. Shenhu Wan is the principal smaller bay.

**Pinghai Wan** (25°11'N., 119°10'E.) is entered between P'ing-hai Chiao and Xiao Yu, about 6 miles SW, the town of Pinghai stands close NNW of P'ing-hai Chiao. During the Northeast Monsoon, vessels with local knowledge can obtain anchorage, in depths of 5.5 to 9.1m, off Pinghai, but the holding ground is poor and vessels often drag in strong winds.

**Meizhou Wan** (Mei-chou Wan) (25°05'N., 119°02'E.) is an extensive, partially examined, and largely shoal bay entered between Hsiao-tso Chiao, a rather low-lying headland about 18 miles SW of P'ing-hai Chiao, and Rogues Point which, forming the S extremity of the island Meizhou Dao, lies about 6 miles NE.

The shoreline of the bay is extremely irregular and, largely fronted by wide margins of drying mud flats, recedes about 20 miles NNW in a series of coves, inlets, and lesser bays. Several islets and numerous above and below-water dangers encumber the deeper, navigable portion of the fairway in the entrance to the bay.

A new port development stands on Meizhou Dao and can handle vessels of 3,000 to 5,000 dwt.

Pilotage is compulsory. It is reported that the pilot boards inside Meizhou Wan (25°02.5'N., 119°03.0'E.), but larger vessels have been boarded prior to entry. Movements are restricted to daylight hours only.

It is reported Meizhou Wan has two inspection/quarantine anchorages in position approximate 25°02.6'N., 119°03.3'E. Both anchorages are reported to be in depths of 20m with a radius of 550m; the former has good holding ground of sand and can accommodate 100,000 dwt vessels.

**Caution.**—Uncharted dangers may exist within the bay.

As directions are sparse, vessels should exercise caution in their approach due to presents of fishing vessels.

**9.11 Dadian** (Sorrel Rock) (25°02'N., 119°11'E.), 19m high, lies 3 miles E of Rogues Point. Ninepin Rock, about 2 miles WNW of Rogues Point, stands on the N end of a reef lying midway in the fairway.

**Dazhu Dao** (Ta-te Hsu) (25°05'N., 119°02'E.), an islet 85m high, rising from surrounding areas of foul ground, lies about 5 miles NW of Rogues Point.

In the Northeast Monsoon, anchorage can be obtained by small vessels with local knowledge between Rogues Point and rocks awash, lying about 0.8 mile E of Ninepin Rock. Small vessels, seeking shelter from winds of the Southwest Monsoon season, anchor close NW of Dazhu Dao.

**Da Gang** (24°55'N., 118°57'E.) lies between Hsiao-tso Chiao and Dashi Yu, 3 miles SSW. It affords good shelter to small vessels with local knowledge during offshore winds.

**Quanzhou Wan** (Ch'uan-chou Wan) (24°50'N., 118°43'E.) is a large, shoal bay which, receding about 12 miles E to the mouth of the river Jin Jiang (Chin Chiang), is entered between Mazuyin (Ta-tso Chiao), about 34 miles SW of P'ing-hai Chiao, and Xiangzhi Jiao (Hsiang-chih Chiao), a precipitous headland about 13 miles farther SW. A light is exhibited from a rock 22m high connected to the SE extremity of Mazuyin. About 3 miles W of the above mentioned light is the city of Chongwu (Ch'ung-wu), with a light situated SE of the city. The shoreline is fronted throughout by a margin of drying mud flats which, in the inner reaches of the bay, becomes extensive. Several islands, numerous islets, and a multitude of above and below-water dangers lie scattered throughout. The bay is subject to a heavy swell with any wind and is dangerous at LW for vessels drawing more than 3m.

**Xiaozhui Dao** (24°49'N., 118°46'E.), 12m high, is the easternmost and largest of a group of rocks lying on a reef 2 miles NNW of Xiangzhi Jiao. The S passage into the harbor is between Xiaozhui Dao and an extensive group of above and below-water rocks close S of it.

**Dazhui Dao** (24°50'N., 118°46'E.), 1 mile N of Xiaozhui Dao, is 101m high. The N passage into the harbor is between Dazhui Dao and Xiaozhui Dao.

**9.12 Quanzhou** (Ch'uan Chou) (24°54'N., 118°35'E.), a city 12 miles within the entrance, stands on a bank of Jin Jiang. There are extensive drying flats across the mouth of Jin Jiang.

The port of Quanzhou is situated 6 miles ESE of the city. It contains four general cargo and one tanker berth: one berth for vessels of 10,000 dwt, two berths for 5,000 dwt, one berth for 3,000 dwt, and one berth for tankers of 3,000 dwt. In addition, there are two mooring buoy berths for vessels of 10,000 dwt and 13 berths for coasters up to 1,000 dwt.

The approach channel, with depths of 5 to 20m, is marked by buoys and three lighted beacons.

**Pilotage.**—Pilotage is compulsory and they board 2 miles SE of Xiao Zhui Dao. The port operates day and night.

**Anchorage.**—Anchorage can be obtained off the port or in the channel WNW of Xiaozhui Dao. Anchorage can also be obtained about 1 mile NW of Dazhui Dao, where there is smooth water in any weather. The anchorage is approached by a channel between Dazhui Dao and the mainland to the N.



An oil terminal was reported under construction to accommodate a tanker of 100,000 dwt.

**Shenhu Wan** (24°39'N., 118°40'E.) is a small, shoal bay with barren shores about 9 miles NE of Wei-t'ou Chiao. The Bay can be entered by small vessels that clear the above and below-water dangers extending NNE from the S entrance point of the bay, by steering on a heading of 311° for a 246m peak located 306°, about 6.9 miles from Yungning Tsui, the N entrance point of the bay. The bay is reported to be unsafe during the Southwest Monsoon season.

Kusau Hill, 207m high and surmounted by a pagoda, is located about 4 miles NNW of Yungning Tsui and is a conspicuous landmark in the approaches to Shenhu Wan.

## Weitou Jiao to Zhenhaio Jiao

**9.13 Weitou Jiao** (Wei-t'ou Chiao) (24°31'N., 118°34'E.) is a low, sandy point which rises to a 24.3m hill surmounted by a light-colored, poorly-discernible obelisk. A rock, with a depth of less than 1.8m, is reported to lie about 0.7 mile SE of Weitou Jiao. There is another rocky shoal about 0.6 mile farther SE of this position. The sea breaks heavily on the dangers around the point, and it should be given a wide berth.

The coastline between the point and Zhenhaio Jiao, about 28 miles SW, describes an extensive bay which, giving access to a number of estuaries, inlets, and lesser bays, is largely shoal and encumbered by several large islets and scattered above and below-water dangers. Inland, the terrain is generally low and well cultivated throughout, save on the SW side where steep sided, rugged hills descend to the shore in bold headlands with lowland and sandy beaches intervening. Offshore, several deep water channels lead from sea and, passing through wide areas of shoal water and extensive margins of drying mud flats, proceed well into the inner reaches of the bay.

**Weitou Wan** (Wei-t'ou Ao) (24°33'N., 118°30'E.), a large expanse of mostly shoal water, entered between Weitou Jiao and the E side of Chinmen Tao, recedes about 10 miles NW. A deep water channel, having a least known depth of 8.2m, trends about 7 miles WNW from Weitou Jiao, and passes between the several scattered islets and areas of drying reefs and mud flats which extend offshore from the mainland and Chin-men Tao. The SW side of the channel is steep-to and soundings give little warning of its approach.

Oyster Islet is a low, flat rock about 2 miles NW of Weitou Jiao. Ta-po Hsu is a small islet about 7 miles WNW of the same point.

Vessels, seeking shelter from winds of the Northeast Monsoon season, anchor, in 6.4m, in a position about 0.5 mile SW of Oyster Islet or, in 9.1m, about 0.8 mile W of the islet. Care must be taken to avoid a rocky ledge, 0.6 mile WNW of Oyster Islet.

**9.14 Jinmen Dao** (Quemoy) (24°27'N., 118°23'E.) is a large, well-cultivated island which, rising to a rather high summit in the E part, has an irregular shoreline somewhat steep-to seaward and encumbered landward by shoal water and an extensive margin of drying mud flats. Chin-men-pei-tung Shui-tao is an encumbered, deep-water passage which, leading from the entrance to Weitou Wan, passes around the N extremity of the island. Chin-men Shui-tao is a deep water

channel which enters Chin-men Chiang, a shoal and reef-encumbered embayment on the W side of Chin-men Tao, by trending N from the sea between the many underwater dangers extending S from the SW extremity of Chin-men Tao and from the S side of Hsiao-chin-men Tao (Lieh Hsu) (Little Quemoy), a hilly islet close to the W. A swell usually breaks over these dangers at times other than HW.

An offshore oil terminal situated with the seaward extremity of a submarine pipeline in a position about 1.8 miles WNW of **Liaoluo Tou** (24°25'N., 118°26'E.), a peaked islet joined by a reef to the SE extremity of Chin-men Tao. A marker buoy and several mooring buoys are moored in the vicinity. A fish haven is situated 3 miles S of Liaoluo Tou.

Vessels, seeking shelter from lesser winds of the Northeast Monsoon season, anchor, in 8.5m, mud and sand, in a position, with Liao-lo T'ou bearing 095° and Ta-wu Shan, the summit of Chin-men Tao, bearing 015°. When winds of the Northeast Monsoon season become stronger, a heavy swell sets in and renders the anchorage untenable. Vessels find shelter from all winds in Chin-men Chiang.

Anchorage is prohibited in an area SE of the island, best seen on the chart.

**Pei-t'ing Tao** (Beiding Dao) (Dodd Island) (24°26'N., 118°30'E.), 3 miles ENE of Liao-lo T'ou, is 21m high; a light, from which a fog signal is sounded occasionally, is shown from a 13m high, metal framework tower. Reefs and shoals, on which the sea sometimes breaks, extend 1.3 miles E of the island, and also across the passage NW of the island.

Tidal currents inshore of the island set SW and W around the S tip of Chin-men Tao on the flood, and in the reverse direction on the ebb.

## Xiamen (24°27'N., 118°04'E.)

World Port Index No. 57870

**9.15 Xiamen** (Hsia-men) (Amoy) is a well-populated metropolis approached from sea through several deep water channels passing between the many low islets, above-water rocks, and drying reefs which lie scattered between Hsiao-chin-men Tao and Chen-hai Chiao. Hsia-chin-men Shui-tao and Xiamen Dongce Shuidao (Hsia-men-tung-ts'e Shui-tao), the two E channels, pass NW of Hsiao-chin-men Tao where they unite and join a channel which trends SE into Chin-men Chiang and NW around the E side of the large, hilly island Xiamen Dao. Ta-tan Tao, a high hilly islet with a low-lying center portion, lies on the W side of the S entrance to Hsia-men-tao-tung-ts'e and serves as a landmark for vessels navigating the principal channel. The principal entrance channel passes between the small, rather low, above-water rock **Wu-tan** (Jih Hsu) (24°22'N., 118°08'E.) and Qing Yu (Ch'ing Hsu), lying about 1 mile to the SW, which rises steep-to on its channel side, it extends to Gulang piloting and inspection anchorage station. There are two inner channels with depths of 5m and 8m. A light is exhibited from the NE slope of Qing Yu. An outgoing current sets strongly onto Qing Yu.

**Winds—Weather.**—Northeast winds predominate throughout the year. From May to August, SE or SW winds usually blow in the afternoon. July to September is the typhoon season.

**Tides—Currents.**—Tidal currents set NW on the flood current and SE on the ebb current in the E part of the outer harbor, and set W and E in that part of the outer harbor S of **Gulang Yu** (Ku-lang Hsu) (24°27'N., 118°04'E.).

In the channel W of Gulang Yu, tidal currents set N on the flood and S on the ebb, with a maximum rate of 2 to 3 knots at springs and 1 knot at neaps.

In Xiamen Nei Gang (Inner Harbor), the tidal currents set NW and SE at rates of 2 to 3 knots. Each current runs for about 6 hours. In the middle of the harbor, the NW flood current runs from 45 minutes before LW to 15 minutes after HW.

During the flood current, a strong E set may be experienced in the S entrance, and a W set may sometimes occur soon after the ebb current has begun in Xiamen Nei Gang.

**Depths—Limitations.**—Deep draft vessels await HW to transit the channel W of , Gulang Yu, but may enter the E channel at any state of the tide. The harbor draft limits are generally over 10m at HW and 8m at LW.

The port is divided into three operational areas: Donghu, new harbor; Xiamen old harbor on the SW tip of the peninsula facing Gulang Yu; and Gaoqi harbor on the NW coast of Xiamen Dao for small craft. The port contains a total of 30 berths for vessels of various sizes, in addition to ten anchorage berths and five mooring berths. Heping Wharf, on the E bank of Xiamen Nei Gang, is used as an overseas passenger terminal. A fishing boat harbor can accommodate up to 100 boats, boats up to 2,000 tons.

**Caution.**—A dangerous wreck lies approximately 1.5 miles SSW of Gulang Yu, in 8.5m of water.

**9.16 Dongdu** (24°30'N., 118°04'E.), a new facility, is situated on the W side of Xiamen Dao, 2 miles N of Xiamen Nei Gang. Vessels enter this new port area by taking the W approach channel, W of Gulang Yu, then pass E of Lighted Buoy No. 34 to E of Hou Yu Light, then adjusting course and turning N to pass W of the light on Manyu Jiao. Then passing W of Lighted Buoy No. 36 and E of Lighted Buoy No. 37, vessels proceed to the berths.

**Depths—Limitations.**—At Dongdu, there are four deep water berths, with a total of 776m frontage and alongside depths of 10.9 to 12.6m. The general cargo Berth No. 4 handles vessels up to 10,000 dwt. Berth No. 3 handles break bulk cargo vessels of 15,000 dwt. Berth No. 2 handles bulk carriers up to 50,000 dwt. At the S end of the terminal, Berth No. 4 handles container vessels of 10,000 dwt.

At Donghu, port expansion is in progress for a container berth to handle vessels of 35,000 dwt, a coal wharf for vessels of 25,000 dwt, and two berths for 25,000 dwt general cargo carriers.

**Aspect.**—Xiamen Gang (Hsia-men Chiang) (Amoy Harbor), the harbor area for Xiamen, extends from the principal entrance between Wu-tan and Qing Yu to a line joining the SW extremity of Xiamen Dao with Sung-hsu Pan-tao, a hilly promontory close to the W.

Hsia-men Wai-chiang, the outer harbor, comprises all of Xiamen Gang not included in the inner harbor. Xiamen Nei Gang, the inner harbor, consists of the narrow, encumbered channel between Xiamen Dao and the well-populated islet Gulang Yu, as well as the N part of the channel passing W of Gulang Yu.

**Dapan Jiao** (Hsu-tzu Wei) (24°24.5'N., 118°04'E.) is a point on the mainland 3 miles NW of Zhenhai Jiao. Ji Yu (Chi Hsu), an island, lies about 3 miles WNW of Dapan Jiao. Yunding Yan (Hung-wan Feng) is a conspicuous peak lying about 2 miles NNE from the S point of Xiamen Dao. It reaches a height of 342m. Yen-tzu-ting (Riguang Yan), 90m high and prominent with boulders on top, is the summit of Gulang Yu. Hou Hsu (Hou Yu), 18m high, marked by a light on its summit, lies about mile NW of the N point of Gulang Yu.

**Pilotage.**—Pilotage is compulsory. Vessels board pilots in the quarantine anchorage and, in general, enter Xiamen Nei Gang only in daytime. The ETA of a vessel and the request for pilot should be signaled 48 hours in advance through Xiamen coast radio station.

**Anchorage.**—The outer anchorage is S of Gulang Islet and the Xiamen Peninsula. The pilotage and quarantine anchorage lies between Gulang Islet and Gangziwei, with a depth of 10m, mud and sand bottom.

**Caution.**—Numerous cables exist in the inner harbor. Care should be taken when anchoring.

A submarine pipeline is laid across Xiamen Nei Gang, 0.25 mile NW of Pang Shi.

A stranded wreck, dangerous to navigation, lies in approximate position 24°24'N 118°05'E.

Several wrecks, positions of which are best seen on the chart, has been reported (1998) in the vicinity of position 24°28'N, 128°03'E.

A submerged rock with depth of 4.7m lies in approximate position 24°25.4'N 118°01.9'E.

Haicang Bridge, with a vertical clearance of 55m, spans the channel between Xiamen Dao and Huoshan Yu.

An overhead power cable, with a vertical clearance of 57m spans the channel between Huoshao Yu and Xiamen Dao.

A dangerous wreck, hazardous to navigation reported (1999) in the approximate position of 24°28.1'N, 118°03.8'E.

Ships are advised to keep to the swept channel as mines in these areas may still present a hazard to navigation. Anchoring and fishing are prohibited in areas extending from a position 24°26'N., 118°05'E, as follows:

1. An area 0.6 mile wide extending SW to Dapan Jiao.
2. An area about 0.5 mile wide extending SSE to the edge of the mined area, passing clear of the pilotage and quarantine anchorage, as shown on the chart.

## Zhenhaio Jiao to Lien-hua-feng Chiao

**9.17 Zhenhaio Jiao** (Chen-hai Chiao) (24°16'N., 118°08'E.) is a low-lying point which rises to a lofty, conspicuous summit about 5.5 miles NW. A reef, which should be given a wide berth, extends 0.8 mile ENE of the point. Discolored and broken water has been reported to extend a considerable distance from the coast between Zhenhai Jiao and Dingtai Tou, 3 miles SW. A light is shown from the headland at Zhenhai Jiao.

The coastline between the point and Lien-hua-feng Chiao, about 121 miles SW, continues irregular and much indented by numerous bays and inlets and several estuaries which, in general, are backed by a low to rolling, well-cultivated coastal plain. Lofty hills and low mountains become more common near the S part of the coast. Offshore, the 18.2m curve tends to close the

salient coastal points and to contain, with rare exception, the several scattered and isolated dangers to navigation.

The many bays and inlets offer shelter against monsoon winds. The principal harbor in the area is Shantou Gang.

**Dongding Dao** (Tung-ting Tao) (24°10'N., 118°14'E.), lying 8 miles SE of Zhenhai Jiao, is 55m high and steep-to. It is grassy on top and perforated at its S end; there is also a remarkable mound at each end of the island. A light is shown from the summit of the island.

Lanbai Qiantan (Rambler Shoal), a small patch with a depth of 8m, and Erjin Qiantan (Erl King), with a least depth of 5m, lie 3 miles and 5 miles NW of Dongding Dao.

Tidal currents near Dongding Dao, during the Southwest Monsoon, have been observed to set N during the flood tide at Xiamen, with a maximum rate of 1 knot; during the ebb tide at Xiamen, the currents near Dongding Dao set SW, with a maximum rate of 2 knots.

**Caution.**—Three unmarked dangerous wrecks lie approximately 17 miles and 19 miles E, and 21.5 miles SE of Dongding Dao.



**Dongding Dao**

**Linnengao** (North Merope) (24°11'N., 118°05'E.), 8 miles WNW of Dongding Dao, is a reef of pinnacle rocks, the highest of which dries 2.4m; the sea breaks on this reef, which is marked close E by a lighted buoy.

**Nanding Dao** (Lamtia Island) (24°08'N., 118°02'E.), 4 miles SW of Linnengao and marked by a light, is 60m high and appears yellow in color when seen at a distance; a racon transmits from it.

The island has a round top and the S side is very steep.

**Nan Sha** (South Merope) (24°06'N., 118°06'E.), 4 miles ESE of Nanding Dao, is a shoal with a least depth of 1.3m; depths of less than 9m extend 5 miles from it.

**9.18 Jiangjun Tou** (24°02'N., 117°54'E.), 19 miles SW of Zhanhai Jiao, is the E extremity of a headland. Zao Shan, 578m high, stands 6 miles NW of Jiangjun Tou and is a good landmark. A light is shown on Jiangjun Tou.

**Black Point** (24°00'N., 117°49'E.), 5 miles WSW of Jiangjun Tou, is dark, table-topped, and rugged. A remarkable peaked sandhill lies 0.8 mile W of the point.

Jiangjun Ao (Red Bay), lying between these two points, is backed by low red sandhills.

**Anchorage.**—Anchorage can be obtained by small vessels during the Northeast Monsoon, but the N part of the bay is shoal.

**Biao Jiao** (23°55'N., 117°52'E.), about 5 miles E of Da'ou Jiao and marked by a light, is an isolated 18m high rock with a large boulder on its summit.

**Caution.**—Islets and submerged dangers extend up to 2 miles seaward of the coast between Jiangjun Tou and Da'ou Jiao, about 5 miles SW.

**9.19 Futou Wan** (23°51'N., 117°42'E.) is a large shoal basin entered between Da'ou Jiao and Xingzi Jiao (Hsing-tsu Chiao), about 8 miles further SW. Lishi Hangmen is a narrow, deep water channel passing between Lishih Chiao and the partially examined, off-lying, barren islet group Lishi Liedao.

Vessels seeking shelter from strong N winds may anchor, in 7.3 to 11m, 0.4 mile SW of Da'ou Jiao, the SE extremity of the peninsula forming the E side of Futou Wan.

Anchorage is also available in a depth of 11m, 0.9 mile SW of the same point. They also anchor, in 11m, in Lishi Hangmen, with the S extremity of the NW islet of Lishi Liedao bearing E, distant 1 mile.

**Dongshan Wan** (T'ung-shan Chiang) (23°46'N., 117°32'E.) is an excellent storm refuge with entrance between the steep-to, rock-fringed headland **Gulei Tou** (Ku-lei Tou) (23°43'N., 117°34'E.), reported radar conspicuous at about 32 miles, and a point about 3 miles WNW. A light is exhibited 0.2 mile within Gulei Tou.

Ta Yu, a hilly islet with a low-lying center portion, lies about 2 miles WNW of Gulei Tou. The several rock and mud-fringed islets Huyu Dao and the islet group Tsu-mei Lieh-tao lie 2 miles NW and 3 miles N, respectively, of the same point.

**Anchorage.**—Anchorage can be obtained between the N end of Ta Yu and Youshui Yan, about 0.7 mile NE of Ta Yu, in depths of about 25 to 30m, mud and sand. In this position the tidal currents have a rate of 1 knot, and a heavy swell may be experienced. Vessels should use caution.

**9.20 Dongshan Dao** (Tung-shan Tao) (23°40'N., 117°25'E.) is a large, rather low, well-cultivated island. Close within **Yuanzhui Jiao** (Cone Point) (23°40'N., 117°29'E.), about mid-way down the E side of the island, stands the prominent cone-shaped peak of Sufeng Shan, 273m high.

The bay SW of Yuanzhui Jiao is separated from Zhaoan Wan by only a low sandy isthmus.

**Shi Yu** (23°35'N., 117°27'E.), about 5.5 miles SSW of Yuanzhui Jiao, is 45m high. The passage between it and Dongshan Dao, 0.8 mile NW, is clear. A light is exhibited at an elevation of 55m on the N end of the island. Tidal currents attain a rate of 1 to 2 knots and form tide rips.

The S shore of the island, consisting of several bights and headlands, extends W from **Chou-k'o-k'o Chiao** (Jokako Point) (23°36'N., 117°26'E.), the hilly, precipitous SE extremity of the island. Chengzhou Dao is a hilly islet lying in the entrance to Zhao'an Wan (Chao-an Wan), a large shoal bay defining the W side of Dongshan Dao.

**Anchorage.**—Off the S coast of Dongshan Dao, anchorage can be obtained in the bay W of **Hou Jiao** (23°34'N., 117°22'E.), the extremity of a small peninsula rising to 32m, in a depth of 6.4m, mud, with a 3m rock close S of the point bearing 135°. This anchorage is sheltered from N winds, but is unsafe with S winds. The bay should not be approached with a depth of 9.1m after dark, as the distance from land is deceptive.

A dangerous wreck lies 6 miles S of Shi Yu.

Anchorage can also be obtained 1 mile W of **Long Yu** (23°34'N., 117°25'E.), in depths of 12 to 16m, mud. The an-



chorage is sheltered from N and E winds, but is open to the swell.

**9.21 Zhao'an Wan** (Chao-an Wan) (23°37'N., 117°17'E.), entered between Zhaoan Tou and Gangkou Tou, about 5 miles WNW, affords good shelter during the Southwest Monsoon, but in the Northeast Monsoon a short, steep sea arises when the wind is strong and makes the anchorage uncomfortable. The bottom is soft mud and the holding ground is bad.

**Zhelin Wan** (Che-lin Wan) (23°36'N., 117°03'E.) is a shoal bay entered between **Ch'en-ch'i T'ou** (Fort Head) (23°33'N., 117°05'E.), the S extremity of a rather high headland joined to the mainland NE by a sandy isthmus, and two hilly, larger islands to the W. A narrow, deep water channel leads NE of the high barren rock Ch'ing Hsu and then into the bay between the hilly, smaller islands Hsin-chou Shan and Che-lin Tao (Hsi-ao Shan).

Vessels, seeking shelter from NE and SE winds, steer for the NW side of Hsin-chou Shan on a heading of 326° so as to pass about 0.2 mile NE of Ch'ing Hsu. When the rock bears SSE, distant about 1 mile, they haul to starboard and steer 340° to the anchorage.

**Anchorage.**—Vessels anchor, in 9 to 11m, mud bottom, in a position within the deep water channel with the NW extremity of Che-lin Tao bearing 064°. The maximum rate of the flood and ebb currents in the entrance to the bay is 2 knots at springs.

**Caution.**—A stranded wreck, marked by a light, lies about 2 miles SE of the E entrance point of Zhelin Wan.

**9.22 Nan'ao Dao** (23°26'N., 117°03'E.) is a large, mountainous and barren but well-inhabited island which is reported radar conspicuous at about 20 miles. It has numerous above and below-water dangers extending about 8 miles S and SE from the SE extremity of the island. A clear, deep water channel passes along the N and W sides of the island. Vessels entering the channel from the E usually pass N of the drying reef Liu-niu Chiao. The island has several prominent summits of over 500m; at its SE point there is a bold headland rising to an elevation of 118m.

Vessels seeking shelter from winds of the Southwest Monsoon season anchor, in 9 to 11m, good holding ground, within Ch'ang Shan Poti, a roadstead lying within the deep water channel off the W side of Nan'ao Dao.

The tidal currents N of Nan'ao Dao run parallel to the coast at a rate of 1 to 3 knots.

**Anchorage.**—Anchorage No. 1 lies approximately 4 miles SW of Nan'ao Dao and has a minimum depth of 13.4m. Anchorage No. 2 lies approximately 2 miles off the NE coast and has depths ranging from 7.8 to 11.4m.

**Caution.**—An unexploded depth charge is reported to lie 2 miles E of the NE point of Nan'ao Dao.

Large fishing stakes exist off the coast.

An exposed wreck, marked by a lighted beacon, lies in the channel 2.5 miles N of Nan'ao Dao.

**Zhisong Yan** (Gibson Rock) (23°26'N., 117°18'E.), 8 miles E of the NE point of Nan'ao Dao, has a depth of 5.6m.

**Chi-hsing Chiao** (23°29'N., 117°14'E.), a group of rocks 1.5 to 2m high, lie 4 miles NW of Zhisong Yan; from E and W they appear as large boulders some distance apart. There is a de-

tached drying rock lying 3 miles farther NW, which vessels usually pass N of when using the channel N of Nan'ao Dao.

## Shantou (23°22'N., 116°41'E.)

World Port Index No. 57860

**9.23 Shantou** (Shan-t'ou) (Swanton) is a well-populated metropolis on the E bank of a branch of the river Han Chiang, located at a distance of about 5 miles from the river entrance. Shantou Gang, the harbor area within the estuary, is entered through a narrow channel about 6 miles NNW of Biao Jiao (Hao-wang Chiao), the NE extremity of a hilly peninsula.

**Tides—Currents.**—The tide is irregular and considerably influenced by prevailing winds. East winds, with a velocity greater than 10 knots, may cause higher water levels, later HW, and earlier LW than predicted. West winds tend to have the opposite effect. Tidal rise may amount only to 0.6 to 0.9m for a number of days during the Southwest Monsoon season. After 1 or 2 days of calm, the water level falls, with the consequence of more water than charted usually found on the bar.

Tidal currents set directly through Luyu Shuidao (Te Chou Men), the entrance channel to Shantou Gang, except during the ebb current, when a branch sets along the N side of **Lu Yu** (23°19'N., 116°46'E.), 57m high, lying in the entrance to Shantou Gang. The flood current occurs from 1 to 2 hours after LW until 1 to 2 hours after HW; the ebb current occurs from one to two hours after HW until 1 to 2 hours after LW. Eddies form NW of Lu Yu, particularly with the flood current.

The flood current within the anchorage off Shantou occurs from 1 hour 30 minutes after LW until 45 minutes after HW; the ebb current occurs from 45 minutes after HW until 1 hour 30 minutes after LW. The current on the S side of the anchorage turns before that on the N side. The flood current attains a rate of 2 knots, while the ebb current can attain a rate of 4 knots.

**Depths—Limitations.**—Depths in the approaches to Shantou Gang are subject to change. The least reported depth over the bar was about 4.3m. The sea breaks heavily on the bar after strong winds.

Luyu Shuidao, the entrance channel to Shantou Gang, passes W of Lu Yu. It extends about 8 miles, has a minimum width of 0.15 mile, and depths in the fairway of 7.8 to 27m, mud and sand bottom.

A vessel with a draft of 6m must enter on the high tide, but a vessel with a draft of 4m can usually enter and depart anytime.

There are two berths for 5,000 ton ships, one for 3,000 ton ships, one coal berth for 3,000 ton ships, and one overseas passenger terminal for ships up to 5,000 tons.

Mooring buoys off the wharves can secure two 10,000 ton ships, two 5,000 ton ships, one 2,000 ton ship, and one 1,000 dwt ship.

Two new berths are under construction for vessels of 5,000 tons. In Tuolin Bay, two anchorage-lighterage berths are being made available for vessels up to 16,000 dwt.

Plans for a major port development at **Guang'ao** (23°14'N., 116°47'E.), S of Shantou, are underway to construct 22 berths for vessels of between 20,000 and 1,000,000 dwt.

**Aspect.**—**Biao Jiao** (23°14'N., 116°48'E.) is the steep-to E extremity of a hilly peninsula. A light, from which a radio-

beacon and a racon transmit, is exhibited on Biao Jiao. Leikou Shan, the highest summit on the peninsula, is flat-topped and conspicuous from the SW. Biao Jiao is reported radar conspicuous at about 22 miles and is apt to be confused in thick weather because of a similarity in summits and sandy beaches, with Haimen Jiao, a point about 10 miles WSW.

A dangerous wreck, marked by a lighted buoy, lies about 1.5 miles ENE of the light on Biao Jiao.

Shuan Sha (The Bar) lies between Chi Yu, a low-lying islet about 2 miles NNW of Biao Jiao, and Tai-hsia-chin Sha-tsui, a shoal sand spit which, marked by heavy breakers after strong winds, lies with its S extremity about 1.8 miles NNW of Chi Yu. A light is exhibited on Chi Yu.

Inside the bar, the narrow, deep water channel Luyu Shuidao leads into the harbor S of Lu Yu and Ma Yu, two hilly islets. On the E part of Lu Yu, a light is exhibited; in the middle and W parts, there are lights in line bearing 127°, astern. A light is also exhibited on the E peninsula of Ma Yu. The channel N of the islets is navigable by small craft.

**Niang Jiao** (23°19'N., 116°50'E.), a rock with a least depth of 2.3m, lies on the N side of the approach, 3 miles NE of Chi Yu. A lighted buoy is moored about 0.5 mile S of the rock.

**Pilotage.**—Pilotage is compulsory. Vessels board pilots in the pilot and quarantine anchorage in position 23°17'N, 116°48'E. Pilots can also board in position 23°21'N, 117°00'E, Anchorage No. 1; or position 23°30.5'N, 117°05.0'E, Anchorage No. 2. The ETA of a vessel, and request for a pilot, should be sent 48 hours in advance through Shantou Gang.

**Signals.**—Storm signals are displayed from a flagstaff near the conspicuous Customhouse when a typhoon is within 100 miles. When a gale or typhoon is expected to strike the port, the following additional signals are hoisted:

Day	Night	Meaning
One black ball	One red light	Gale
Two black balls	Two red lights	Typhoon

**Anchorage.**—The pilotage and quarantine anchorage is situated E of Chi Yu, in a depth of about 6.5m. The above mentioned anchorage is the quarantine anchorage No. 1 of this port. Quarantine Anchorage No. 2 and Lower Reach Anchorage are situated between Lighted Buoy No. 1 and Lighted Buoy No. 2, lying 0.75 mile NNW of Ma Yu, and Lighted Buoy No. 3 and Lighted Buoy No. 4, lying 2 miles WNW of Ma Yu.

Upper Reach Anchorage occupies that portion of the harbor extending from S of Shantou to **Gui Yu** (2°20.3'N., 116°38.4'E.); the W part of this anchorage is used for tankers.

These anchorages can be used to ride out typhoons and provide 11 berths for moderate-size vessels lying at anchor or working cargo, in depths of from 5 to 13m, mud bottom.

**Caution.**—A wreck, dangerous to navigation, lies about 0.75 mile NE of Chi Yu; a stranded wreck lies almost 1.5 miles N of Chi Yu. A dangerous wreck lies almost 2 miles E of the stranded wreck, while an obstruction with 1.6m, lies close N of the stranded wreck.

## Shibeishan Jiao to Ta-p'eng Chiao

**9.24 Shibeishan Jiao** (22°56'N., 116°29'E.), about 25 miles SW of Biao Jiao, is a low, rock-fringed, sandy point that rises close inland to a rounded hill about 114m high.

A light is shown from a height of 68m and a racon transmits from the light structure on Shibeishan Jiao.

The coastline between the point and Ta-p'eng Chiao, about 115 miles WSW, is irregular and indented at fairly equal intervals by a series of bights and bays. Inland, the terrain is low-lying for about half of the distance along the coast and then, rising in the remaining half, hilly and mountainous. The shore line throughout has extensive sandy beaches backed in places by areas of sand dunes.

Offshore, the 20m curve continues to close the salient coastal points and to contain, with few exceptions, the several scattered and isolated dangers to navigation.

The several bays indenting the coast are largely of importance as anchorages during the monsoon seasons.

**Shenquan Gang** (22°57'N., 116°18'E.) is an open roadstead lying within the larger of two bights indenting the coastline between Shibeishan Jiao and Jiazi Jiao. Mianqian Qunjiao, a rock with a depth of 1.6m, lies 3 miles SE of Shenquan Gang.

**Shenquan** (22°58'N., 116°09'E.) is a village situated about 8 miles WNW of Shibeishan Jiao. The village is on the E entrance point of a river with a bar on which the sea breaks at LW. A pagoda stands on a hill 2 miles N of the village.

**Aspect.**—A conspicuous square stone stands on the shore about 3.8 miles W of Shibeishan Jiao. A pagoda stands in a village on the E entrance point of a river entering the sea about 11.5 miles W of Shibeishan Jiao.

**Anchorage.**—Anchorage can be obtained at Shenquan Gang during the Northeast Monsoon, in a depth of 9.4m, with the pagoda bearing 348°. The holding ground is good, but there is often a heavy swell.

**9.25 Jiazi Jiao** (22°49'N., 116°06'E.), 14 miles SW of Shenquan Gang, is prominent with a rugged summit where a light stands at a height of 78m. Several islets and rocks extend S and SE of Jiazi Jiao and the point should be given a wide berth. Dongbaijiao, a rock 5.4m high, is the outer exposed danger and lies 1 mile S of the point. Rocks, with depths of less than 5.5m, extend 1 mile ENE of Dongbaijiao.

**Black Mount** (22°52'N., 116°09'E.), a 56m high conspicuous black conical hill that can often be seen at night, rises from surrounding red sand dunes about 4 miles NE of Jiazi Jiao.

Vessels, seeking shelter from winds of the Northeast Monsoon season, steer not greater than 320° for the square rock W of Shibeishan Jiao, so as to pass W of above and below-water dangers, and anchor, in 10.1m, about 0.5 mile WSW of a 15.8m islet, about 2 miles W of Shibeishan Jiao. They also anchor, in 9.4m, good holding ground, with the pagoda at the river entrance W of Shibeishan Jiao bearing 348°. A heavy swell often sets into the anchorage from the S.

**Caution.**—A dangerous wreck (22°44.2'N., 116°06.8'E.), lies about 5 miles S of Jiaze Jiao.

**9.26 Jiazi Gang** (Chia-tzu Kang) (22°51'N., 116°04'E.), with a shallow bar at its entrance, is situated 2 miles NNW of Jiazi Jiao. Wu Jiao, lying in the approach to the harbor, is 2m

high; other rocks fringe the coast to the W. A light is shown from a white, round masonry structure at the head of a breakwater (22°50.5'N., 116°04.5'E.).

During the Northeast Monsoon, small vessels can obtain anchorage about 0.6 mile SSW of Wu Jiao, in a depth of 9m, but there is usually a heavy ground swell. The currents in the anchorage set NE at a rate of 1 knot on the flood and SE at a rate of 1.5 knots on the ebb.

**Hudong Jiao** (Hutung Chiao) (22°48'N., 115°57'E.) is situated about 8 miles E of Jaizi Jiao; on it there is a fort and a prominent dome-shaped building resembling a beehive. A rock, peculiar in shape when seen from the E, lies close off a small islet 1 mile SE of Hudong Jiao.

**Heiyan Jiao** (Black Rock Point) (22°47'N., 115°54'E.), which is distinguished by a conspicuous mound 32m high close NW of it, lies about 3 miles W of Hudong Jiao. The coast between Heiyan Jiao and **Tianwei Jiao** (Tien-wei Chiao) (22°45'N., 115°49'E.), about 5 miles WSW, is a sandy plain.

**Jieshi Wan** (Chieh-shih Wan) (22°46'N., 115°40'E.) is a bay of quite regular dimensions, whose flat sandy shore is densely populated and whose approaches in moderate weather are crowded with fishing craft. Tianwei Jiao, the E entrance point, is the S extremity of a promontory which, rising to a sharp, conspicuous summit about 1 mile NW, is reported radar conspicuous at about 15 miles. It is marked by a light.

The E part of the bay, between Tainwei Jiao and Jinxiang Jiao, a conspicuous 48m high hillock about 9 miles NW, is encumbered with several remarkably precipitous rocky islets, rocks, and shoals; these shoals are not always visible due to the muddy color of the water.

**Xijie Jiao** (Hsi-chieh Chiao) (Siki) (22°42'N., 115°47'E.), lying 3 miles SW of Tianwei Jiao, is a rugged islet 14m high with two granite hummocks. A rock, with a depth of 5.5m, lies 0.5 mile NW of Xijie Jiao.

**9.27 Dongjie Jiao** (Tungki Rocks) (22°46'N., 115°50'E.), a group of black rocks up to 7m high, lies about 1.2 miles SE of Tianwei Jiao; the passage N of the rocks should not be used.

**Bi Tou** (22°45'N., 115°36'E.), situated about 8 miles SW of Jinxiang Jiao, is the NE extremity of Baisha Bandao, a hilly peninsula connected to the mainland SW by a narrow sandy isthmus. A number of drying rocks extend up to 0.5 mile off the coast between Bi Tou and Zhelang Jiao, about 6 miles SSW.

**Jin Yu** (22°43'N., 115°37'E.), 38m high, with a precipitous rocky summit at its N end, lies on the W side of the entrance to the bay, about 3 miles SSE of Be Tou.

**Zhelang Jiao** (Che-lang Chiao) (22°39'N., 115°34'E.), the W entrance point of Jieshi Wan, is marked by a light. The point is the S extremity of a rather low, rocky finger of land which, reported radar conspicuous at about 16 miles, is remarkable for its areas of red sand and black mounds extending for some distance on either side of the point. A conspicuous boulder, on which there is a white-washed mark, is located at an elevation of 31m, 0.2 mile N of the point. A wreck, in 16m of water, is in position 22°31'41"N., 115°54'42"E.

**Anchorage.**—Anchorage, protected from all but S winds, can be obtained in Jieshi Wan by choosing a berth on either side of the bay according to the prevailing monsoon; however, vessels of deep draft must anchor well out in the bay.

Shallow draft vessels can obtain anchorage NW of Bi Tou, protected from S winds; and during the Northeast Monsoon in a position 2 miles NW of Tianwei Jiao, or in a position about 0.8 mile W of a prominent block of granite, with an elevation of 18m, which stands on a hillock near the shore about 3 miles N of Tianwei Jiao. The latter anchorage should be approached with the block of granite bearing 075°, to clear the dangers on each side.

Small vessels, with drafts of less than 3m, can anchor 0.5 mile NW of Jinxiang Jiao.

Anchorage with good holding ground and sheltered from the Northeast Monsoon, may be obtained about 0.2 mile W of Zhelang Jiao, in depths of 11 to 12.8m, sand and mud, in a position with the conspicuous boulder N of Zhelang Jiao bearing 044° and with the lighthouse standing on an islet close S of Zhelang Jiao bearing about 132°. Tidal currents are strong in the anchorage.

**Caution.**—The swell is felt throughout the bay during the Northeast Monsoon. During moderate weather, the bay and its approaches are crowded with fishing boats.

**9.28 Honghai Wan** (Hung-hai Wan) (22°40'N., 115°10'E.) is a large islet-encumbered, shoal bay lying at the head of an extensive bight which recedes inland between Zhelang Jiao and Fu-chi Chiao, about 37 miles WSW. A light is exhibited 0.5 mile NNW of Fu-chi Chiao. The bay is but partially examined, often crowded with fishing craft in fair weather, and commonly under the influence of a long ground swell. Strong tidal currents are reported to set N and S according to the state of the tide. The tidal range is slight.

Numerous dangers lie off the coast between Zhelang Jiao and Saozhou Wei (Chou-pa Wei), about 10 miles W.

Shui-ya Shih (Flat Rock), 6m high, lies 1 miles W of Zhelang Jiao.

**Cai Yu** (Ts'ai Yu) (22°38'N., 115°29'E.), 11 to 12m high, lie 5 miles W of Zhelang Jiao; they are surrounded by reefs which extend up to 0.2 mile offshore.

**Guiling Dao** (Kuei-lang Chou) (22°39'N., 115°26'E.), 53m high, lies near the extremity of a rocky spit extending 1 miles S from the coast about 2 miles E of Saozhou Wei; foul and rocky ground extends 0.6 mile S from the island. A rock, with 3m, lies 1 miles SW from the W point of the island. During the Northeast Monsoon, anchorage can be obtained between Guiling Dao and Saozhou Wei.

**Shanwei Gang** (22°45'N., 115°18'E.), an important fishing port, is entered in the NE corner of a bay between Shanwei Tou, about 3 miles NW of Saozhou Wei, and Niubi Tou, about 7 miles further WNW. Vessels anchor about 7 miles WSW of the entrance to pick up a pilot.

**Off-lying dangers.**—**Dongding Yu** (Tung Ting) (22°38'N., 115°06'E.) is 9m high and rocky; it is fringed with above and below water rocks which extend 0.5 mile E and S of the islet. Xiding Yu (Si Ting), lying 1.5 miles NW of Dongding Yu, is 16m high and similar to Dongding Yu.

Sunk Rock, with depths of less than 1.4m, and on which the sea often breaks, lies 3 miles NW of Dongding Yu.

Gu Yan (Single Rock), about 3 miles NE of Dongding Yu, has a depth of 1.1m; the sea only breaks on it at LW or during a heavy sea. A rock, with a depth of 2.7m, lies 0.5 mile NE of Gu Yan.

Other wrecks, obstructions, shoal patches, and other hazards to navigation may best be seen on the chart.

**Fu-chi Chiao** (Daxingshan Jiao) (22°33'N., 114°55'E.), the W entrance point of Honghai Wan, is the S extremity of a promontory connected to the mainland by a low, sandy isthmus. The promontory is 204m high and from E and W appears to be an island. A fort stand on a 120m high hill near the SW end of the promontory. A round tower, with a white mast close to it, stands 1 mile NE of the fort. This tower is prominent when approaching from the E, as it is then on the skyline, but is obscured on bearings between N and W. A light is exhibited from a metal framework tower standing 0.5 mile NNW of Fu-chi Chiao.

**9.29 Jingyu Yan** (22°31'N., 115°01'E.), a rock with a depth of 1m, on which the sea sometimes breaks, lies about 6.2 miles ESE of Fu-chi Chiao; it is in two parts and is steep-to. A 10.6m shoal lies 2 miles WSW of Jingyu Yan; Yuanzi Jiao, a 13.2m patch, lies 1.2 miles E of the same rock.

Baiya Pai (Whale Rock), a flat rock 9m high, is located 2 miles N of Jingyu Yan.

**Xiaoxingshan** (Hsiao-hsing Shan) (22°31'N., 114°50'E.), located 5 miles SW of Fu-chi Chiao, is 146m high and has two peaks that look like a saddle from some directions.

**Anchorage.**—Anchorage affording shelter from SW winds, may be obtained on the NE side of this island. Shen-kaio Tao, 51m high, with a remarkable cleft near its center, lies 0.6 mile N of Xiaoxingshan.

**Ping-hai Wan** (22°34'N., 114°51'E.) is situated on the NE side of the approach to Daya Wan between a point 1 mile W of Fu-chi Chiao and a promontory formed by the S extremity of a range of hills, about 5 miles NW.

**Anchorage.**—Anchorage may be obtained in the bay, during the Northeast Monsoon, N of **Lien-hau Chou** (22°34'N., 114°53'E.), 21m high and flat-topped, near the SE entrance point of the bay.

From the NW entrance point of Ping-hai Wan, the coast extends about 3.2 miles W to Ta-ya Chiao, the E entrance point of Daya Wan.

**9.30 Daya Wan** (Ta-Ya Wan) (22°37'N., 114°40'E.) is a large islet-cluttered, deep water bay whose shoreline, backed throughout by mountainous terrain, recedes inland in an irregular series of lesser bays and inlets which form the major portion of a considerable coastal embayment.

It has been reported (1998) that an oil discharge pier is located at the Guanzhou Petrochemical Complex on **Mabianzhou Island** (22°40.2'N., 114°39.3'E.). The pier is approached through a 175 to 205m wide buoyed channel, which has a controlling depth of 16.1m.

**Anchorage.**—Two anchorages lie towards the E side of Daya Wan. Anchorage No. 2 is located to the N of Anchorage No. 1.

**Ta-ya Chiao** (Daya Jiao) (22°35'N., 114°45'E.), the E entrance point of the bay is the W extremity of a small peninsula with three peaks; the E and highest peak has an elevation of 116m. A rocky ridge extends 0.6 mile SSW from

Ta-ya Chiao; two rocks, 4m and 12m high, lie near the outer end of this ridge.

Fa Shan, 89m high and wooded, lies 1.2 miles W of Ta-ya Chiao. A bare 17m high rock lies 0.3 mile further SE. Foul ground extends 0.2 mile N of Fa Shan; a rock awash lies 0.6 mile NNE of Fa Shan.

**Caution.**—Vessels should not use the channel between Ta-Ya Chiao and Fa Shan.

**Pi-chia Chou** (Triple Islet), 45m high at its S end, lies on the outer edge of a coastal bank, 2 miles NNW of Ta-ya Chiao and 0.6 mile offshore. Good anchorage may be obtained W of Pi-chia Chou in the Northeast Monsoon, in a depth of 11m, or anywhere on the E side of Daya Wan, according to draft.

**Ta-liu-chia Tao** (Lokaup Island) (22°35'N., 114°39'E.), about 2.8 miles NE of Hsi-chi Chiao, the W entrance point of Daya Wan, is the southernmost and largest of a group of islands extending N into Daya Wan. This island has three summits, the highest of which rises to an elevation of 111m in its N part.

**Anchorage.**—Anchorage may be obtained on either side of the island, according to the direction of the wind.

**9.31 Ta-p'eng Ao** (Tai Pang Wan) (22°35'N., 114°30'E.) lies at the head of a large bay in the SW part of Daya Wan.

The bay, although restricted by a coastal bank with depths of less than 5m, affords good anchorage to moderate-sized vessels, sheltered from all but E winds. Vessels entering the bay should keep to the S side of the bay.

**Hsi-hi Chiao** (22°33'N., 114°36'E.), the W entrance point of Daya Wan, is 48m high.

**Teng-huo-pai** (Middle Rocks) (22°31'N., 114°41'E.), which dry 1.8m, lie 3.3 miles of Hsi-chi Chiao. A rock, with a depth of less than 2m and on which the sea breaks, lies 0.3 mile SW of Teng-huo-pai.

**Tuoning Liendao** (22°27'N., 114°38'E.) is a group of islands S of Hsi-chi Chiao that is separated from the mainland by a deep clear channel 1.5 miles wide.

**Sanmen Dao** (22°28'N., 114°38'E.), 301m high, with a conical summit at its S end, is the N islet of the group. Islet and rocks, with foul ground around them, extend about 1 mile W from the N extremity of Sanmen Dao.

Kuel-wan, 52m high, with Ta-heng Chou, a smaller islet, 42m high, 0.15 mile W of it, lie between To-ning Tao and Xiaosanmen Dao, 84m high, 1 mile to the SE.

**Anchorage.**—The best anchorage is in Sanmen Po-ti (Sanmen Road), W of the S extremity of Kuel-wan, in depths of 13 to 15m, sheltered from all winds except from SW or S.

During SW winds, there is anchorage off the N side of Sanmen Dao, in depths of 16 to 18m, and also NE of Kuel-wan, in depths of 18 to 22m.

**9.32 Qing Zhou** (Single Islet) (22°24'N., 114°40'E.), with a rounded summit 91m high, is the S islet of Tuoning Liendao and lies 1 mile SSE of Xiaosanmen Dao. A light is shown from Qing Zhou.

Akong, a remarkable pyramidal rock 30m high, lies 0.6 mile NE of Qing Zhou, with deep water reported between. A rock, with a depth of 4.5m, and which rises abruptly from a depth of

24m, lies 1 mile NE of Akong; an 8m depth lies about a mile N of the 4.5m patch.

**Dapeng Jiao** (Mirs Point) (22°27'N., 114°30'E.), about 8 miles WSW of Hsi-chi Chiao, is a reef-fringed steep-sided

point which rises to an elevation of 391m close inland. A rock, 15m high, lies close off the point.

The coast W of Dapeng Jiao is described in Pub. 161, Sailing Directions (Enroute) South China Sea and Gulf of Thailand.